

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A porous insulating film consisting essentially of a highly heat resistant polyimide resin film having a fine porous structure wherein:

- a) fine continuous channels reaching to both surfaces of the film in a nonlinear fashion have a mean pore size of 0.01 0.05 – 5 μm in the center and both surfaces of the film and a porosity of 15 – 80%; and
- b) the polyimide resin film consists essentially of a polyimide obtained from the combination of at least one tetracarboxylic acid component and a diamine component ; and
- c) the film has a thickness of 5 – 150 μm and a resistance to passage of air of from 30 sec/100 cc to 2000 sec/100 cc.

Claim 2 (original): A porous insulating film according to claim 1, wherein the mean pore size is 0.05–1 μm .

Claim 3 (original): A porous insulating film according to claim 1, wherein the porosity is 30-80%.

Claim 4 (original): A porous insulating film according to claim 1, which has a thickness of 5-150 μm .

Claim 5 (previously canceled).

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Claim 6 (original): A porous insulating film according to claim 1, which is fabricated by a film casting method.

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Claim 7 (original): A porous insulating film according to claim 1, wherein the dielectric constant is no greater than 2.5.

Claims 8-9 (previously canceled).

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Claim 10⁸ (currently amended): A porous insulating film consisting essentially of a highly heat resistant polyimide resin film having a fine porous structure wherein:

- a) fine continuous channels reaching to both surfaces of the film in a nonlinear fashion have a mean pore size of 0.01 0.05 - 5 μm in the center and both surfaces of the film; and
- b) the polyimide resin film consists essentially of a polyimide obtained from the combination of at least one tetracarboxylic acid component and a diamine component and has
 - (i) a thickness of 5 - 100 μm ,
 - (ii) a resistance to passage of air of from 30 sec/100 cc to 2000 sec/100 cc,
 - (iii) a heat resistance temperature of at least 200°C and
 - (iv) a heat shrinkage of greater than $\pm 1\%$ at 105°C.

Claim 11 (previously canceled).

Claims 12-14 (canceled).

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Claim 15⁹ (previously added): A battery separator comprising a porous insulating film according to claim 10.

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Claim 16¹⁰ (previously added): A porous insulating film according to claim 1 or 10⁸, wherein the tetracarboxylic acid component is selected from a biphenyltetracarboxylic dianhydride, pyromellitic dianhydride and a benzophenonetetracarboxylic dianhydride.

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Claim 17¹¹ (previously added): A porous insulating film according to claim 1 or 10⁸, wherein the diamine component is selected from a phenylenediamine or a diaminodiphenylether.

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Claim 18⁷ (previously added): A porous insulating film according to claim 1, wherein the pores in the porous structure are arranged in the film substantially parallel to the film surfaces.

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Claim 19 (previously added): A porous insulating film according to claim 16, wherein the biphenyltetracarboxylic dianhydride is 3,3',4,4'-biphenyltetracarboxylic dianhydride.

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Claim 20 (previously added): A porous insulating film according to claim 19, wherein the pores in the porous structure are arranged in the film substantially parallel to the film surfaces.